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MERRY CHRISTMAS
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THE SHELTERBELT OF THE FUTURE

The almost unbroken series of events adverse to tree growing on the Plains that have occurred since this Project started may appear outwardly discouraging to many. Drought, grasshoppers, borers, more drought, hail, rodents, disease, and now this latest "blitzkrieg" of the elements - the Armistice Day freeze which at this writing appears to have been one of the greatest disasters we have yet encountered, should cause us all to pause, look back to see where we have been, and then look ahead into the future to see where we are going.

Those of our personnel who have been with the Project since its beginning or nearly so, and who have observed all the changes in thought, policies, and standards that have taken place, have had a rich experience probably unparalleled in the history of any forestry undertaking. Now we can look back perhaps with a bit of amazement at some of the ideas and practices we observed in 1935 and even in 1936 and 1937. Many of the policies and practices of those years have been discontinued and replaced with others more in keeping with the newer thinking as influenced by research and additional experience. Even our 1940 program differed from the 1939 in several ways, the most important being that variable width belts were introduced.

Knowing the many ways in which our Project has developed during the past six years, it is safe to assume that we will continue to profit by our experiences and therefore we are not likely to crystallize at our present stage of the game. The adversities our plantings have experienced contain in their effects many worth-while technical lessons which will be noted and used to advantage.

Perhaps the most obvious lesson to be learned from our plantings to date is that in general our native species are much to be preferred over exotic or introduced species. With one exception, our major problem species have proved to be the exotics and for each of these problem exotics we have native substitutes available which, while perhaps not so flashy in early life, will endure the various vicissitudes of the Plains much better over the long pull. The one exception is the Cottonwood, and our trouble with this moisture-loving species is largely confined to those sites where it must depend exclusively on current rainfall for its water requirements.

The writer is of the opinion, therefore, that there will be increased preference shown for strictly native species and that the exotics will become of noticeably less importance. The trend in this direction is already evidenced by a decrease in the use of such introduced species as caragana and Russian olive. These are being partially replaced by the native American Plum, Chokecherry, and Quailbush. Chinese Elm, perhaps the most popular exotic species used in our work to date, will undoubtedly be less favorably looked upon after the effects of the Armistice Day freeze become apparent next spring and the native Hackberry and American Elm will enjoy greater favor as a result.

It is my firm conviction that we have barely scratched the surface in regard to the use of conifers for shelterbelt planting. Observations throughout our entire zone of operation lead me to believe that conifers, particularly the cedars, are the soundest foundation upon which Plains tree planting can be built. Long life, adaptability to a wide range of site conditions,

year-round protection, regeneration, wildlife value, and comparative freedom from rodent, insect and livestock damage, as well as disease resistance, combine to give the cedars a popular and technical appeal which assure them in my opinion the most prominent spot in future planting operations. I believe that I am not wrong in prophesying that in the not too distant future, perhaps within five years, cedars and other conifers will make up at least 50 percent of our nursery stock production and that in many of our plantings conifers will predominate with perhaps only one or two rows of quick-growing hardwoods for the initial protection.

It seems to me that with an increase in the amount of conifers being planted, the shrub species will largely fade out of the picture, especially on those sites where soil movement is of minor consequence. The functions of the shrub in the planting will be taken over by the conifers. It also seems reasonable that the number of rows in our plantings will decrease as the proportion of conifers increase and I would not be surprised to see 5-row basic belts considered the optimum with at least three of the five rows consisting of conifers. Intermediate belts will in many instances consist of one row of closely spaced cedar. Also, intermediate belts consisting of one row of cedar and one of pine will not be uncommon.

Some may raise the question, if our belts consist principally of conifers, what about the other forestry needs such as fuel and posts which our plantings are destined to fulfill under our present theories of composition? For my part, I believe that such important needs can in most cases be more logically met by solid block plantings of deciduous species on waste bottom land or even solid block planting on cultivated farm land. Silvicultural management of the strictly utility species would be greatly simplified if one need not be concerned with the wind protection features of the planting. Combining the two types of planting into one is an idealistic approach but I submit that they are going to be difficult to manage, especially since our control is subject to the will of the farmer cooperators, and therefore our best approach to the two objectives is to divorce them entirely and treat them separately.

All of the above is merely one man's opinion. I grant the right of the Plains Foresters to differ with me in whole or in part. I think that most of us will agree, however, that forestry will play a vital part in the future of the Plains country, and since the rules of the game are still flexible and subject to change, we all have a golden opportunity to present our ideas for consideration. Perhaps that is what makes our job out here so interesting.

- H.E. Engstrom, R.O.

COMMENTARY BY DIRECTOR ROBERTS

I am glad Engstrom has written the above article. It is good to have a medium through which expression can be given to individual thinking and opinions, though the individual opinions expressed should not necessarily be taken as representing changes in Project policies or instructions, or as a reason for changing the present conduct of the work.

If there is one thing that would be fatal to this Project it would be to assume that we had all the answers, and to let our thinking and performance

narrow down to the job as it is being done now. In my opinion there is no more reason to believe that the shelterbelt of today will be the shelterbelt of the future, than there would have been 15 years ago to think that the Model-T (with which we have some things in common) could never have been replaced by the luxury model of today. Ernie Wright is talking about alternating species in the row as a further refinement of the reasons for several species in the belts; maybe we will have a few rows of fast-growing species for quick protection on the farm land side of the belt, and back of that the slower-growing, more durable species. When the fast-growing, short-lived species go out the land can again be plowed, and so with all the things that Engstrom suggests. There are a lot of scientific aspects of our job that we haven't made a dent in yet. On the other hand, there are a lot of sound practices in effect now, backed by the results of fundamental research and experience, that will doubtless persist through the years. We have just as far to progress as individual and group capabilities plus new knowledge will let us go. How far we can go remains for the future to determine, but we know now we can go quite a long way.

"TREES MAKE A WALL AGAINST WIND"

District Officer Pierce of South Dakota sends in a circular letter gotten out by County Agent Opdahl of Lake County, which ought to get Pierce a lot of cooperators.

Under a very attractive sketch of a really magnificent shelterbelt and the pronouncement "Trees Make a Wall Against Wind!" the county agent says:

"Now is the time to sign up for 1941 shelterbelts and prepare the ground for next spring planting.

"The shelterbelt men are ready to go to work on your farm in a very short time after your application is sent in: To assist you, this letter will serve as an application if you fill it out at the bottom and return it to me. Remember every belt in our quota that we don't take will go to some other county. Here is your chance to get trees. Don't pass it up."

The balance of the circular is devoted to an application form including a sectional diagram.

In commenting upon the circular, State Director Ford says: "Pierce says this circular letter by the county agent of Lake County is getting results as far as applications are concerned."

- E. L. Perry, R.O.

THE COVER PICTURE

PLAINS FORESTER does not ordinarily go in much for art, but it seemed appropriate at this gladsome season to sort of dress up for the occasion. The cover picture is by Brennan Davis, Subdistrict Officer at O'Neill, Nebraska, who has a happy faculty for throwing a few assorted lines together and proving the oriental proverb that a single picture is worth ten thousand words.

- E. L. Perry, R.O.

NEWS STORY OF THE MONTH

A great deal has been written, even on this Project, about what it is that goes to make up a good news story, and we have decided to publish a few samples from our own collection of what we consider to be good stories. Each month we shall select from the clippings that come in the story which we consider to be best, and reproduce it in that month's PLAINS FORESTER.

Our candidate this month happens to have been a general release which was widely used throughout the State in both daily and weekly papers, but that will not be necessary to qualify in this particular Hall of Fame. Many a fine story never has a chance to get beyond the columns of the weekly newspaper where it appears, and the purpose here is to identify quality. A good many things, of course, enter into the quality of a writing, but the two chief ones are: Does it have something about it which will make people read it and remember it? If so, how much good will it do to have it read and remembered? The educational worker, which describes all of us on this Project, who can inject the maximum amount of education into a story which will still be read and appreciated, stands to do the Project most good by his utterances.

Here is our selection for this month:

FRIENDS OF TREE PLANTING HELP WORK

Manhattan, Nov. 28--Friends of tree planting are making it possible for the shelterbelt program to continue in Kansas this year, Russell Reitz, state director of the forest service said today after completing arrangements with several counties which have agreed to provide storage space for tools and trucks in addition to furnishing trucks for transporting men and trees to the farms.

Reitz traced the history of the shelterbelt program, now in its seventh year, pointing out that in the earlier years practically all of the expense was financed by the federal government while in later years an increasingly large amount of expense has been borne by counties, cities, and other groups, and by farmers who contribute most to the project since they supply the land, provide the fence materials, and do the necessary cultivation.

The project is financed by funds allotted to the forest service by the Work Projects Administration. These funds appear sufficient at the present time, Peitz said, to finance enough labor to plant about seven million trees next spring and provide labor for other essential work during the year.

The project's greatest problem - that of providing non-labor funds - is being materially relieved through recent additional assistance from county officials, since rentals and various other expenses will no longer have to be paid from federal funds.

Counties seem willing to supply some additional assistance because of their belief in the worth-whileness of the program and the employment which the program provides locally. Peitz said that the project would probably have been stopped several years ago had it not been for the willingness

of the WPA to allocate money to the work and the willingness of county officials to assist, since there has never been a direct appropriation made to continue the shelterbelt work. The lack of stable financing has led to many difficulties, Reitz said, but added that the trees were growing successfully and contributing to the welfare of agriculture to the state.

WE NEED A TAPE MEASURE

QUESTION: Where in the shelterbelt zone is the farthest west and highest shelterbelt planting?

ANSWER: E. E. Booth belt planted in 1938 is located within one-half mile of the New Mexico line and is located 4,000 feet above sea level.

And it's a darn good belt, too!! Survival 92 percent and growth surprisingly good. - No, 'taint braggin'! Just mere facts.

- Hy Goldberg, Tex.

(Editor's Note: We have an idea Nebraska will have something to say about this. Seems to us we once heard - via the grapevine, doubtless - that some of our early negotiators sort of got lost out in the far reaches of that State, with the result that it would now be necessary to move the Wyoming line a little in order to get all "Nebraska" belts actually into Nebraska.)

AN UNSOLVED PROBLEM

Our project seems to thrive on a multitude of problems and the solution of these problems. The facing of these difficulties has been an interesting task and by our attitudes we have made them stepping stones instead of stumbling blocks.

For three years in my subdistrict, we have faced an unsolved Chinese elm and Hackberry problem. Each year we receive good quality, high-grade trees, and heel them into a well-prepared bed just like the other species are handled. These trees are removed and planted the same as others. They begin to leaf out normally, then a high percent of them spend the rest of the season doing just that. By fall they are exactly as large as when planted. In 1938 after a wet period I was willing to call it roct rot. In 1939 the same thing happened after a very dry spring, so perhaps it was too dry for them. But the spring of 1940 was ideal and it still happened.

I have in mind two 1940 shelterbelts, one half mile apart in which the Chinese elm was planted by the same man, the same day, and from the same truckload of trees. The two belts were subsoiled the same day in the fall of 1939, and received excellent care all season. In one belt there was an almost perfect row of trees over four feet tall; in the other, two rows of rat-eared stubs. Even in the same row I have seen 50 good trees in succession, then a "bundle" of poor ones, and so on.

Some farmers call it poor stock, others blame the late freeze which killed the first leaves. Luckily, some blame rabbits, for they do make good rabbit feed all summer and winter. Personally, I've thought of a thousand reasons, only to have each one outruled by some new idea.

Each year it seems necessary to carefully inspect the nurseries many times, and to inspect planting crews and cultivation jobs; yet this one problem goes unsolved. We field men can't dodge the issue and we do have the feeling of each cooperator at heart. Personally I feel just a little worse than he does when his trees don't grow. Often it is the good cooperator who has such luck.

This trouble occurs with these two species in every subdistrict of which I have any knowledge. Exposure, poor stock, poor planting, late freeze, too wet, too dry, rabbits, sunburn? No, I've thought of all those, there's something else - some simple thing we've overlooked in the handling of these two species, either in digging or heeling them in. And I hope another season doesn't slip past without some attention being given to this problem.

- Ted Stebbins, Kans.

REVIEW OF "TREES FOR WASHINGTON FARMS"

Early settlers on coming to the prairie region of Washington, found a treeless area except for the bottoms of moist ravines and along streams where the widely ranging cottonwoods or poplars were to be found, and on certain north slopes where moisture conditions were favorable for pine and fir.

In an effort to make their homesteads more livable and as protection from sun and wind, many of the pioneers planted trees around their homesteads. As cottonwood was occurring naturally in the region, it was natural that this species should be widely used in these early plantings.

Except for the reference to the pine and fir, this paragraph might well have been written for any one of the Plains States. Yet it is taken directly from the introductory paragraphs of the bulletin, "Trees for Washington Farms" by John P. Nagle and E. H. Steffen, published in February 1940.

Under need for trees and their more important uses on Washington farms, we find familiar phrases such as:

"Trees provide the primary method of farmstead beautification.....and increase the sale value of any farm. Trees provide shade for people and stock. Trees..... will provide wood for fuel and farm use at the same time reclaiming the soil, preventing erosion.....Trees when planted in narrow strips or shelterbelts on the windward sides of gardens, orchards or other small tracts, and at definite intervals across cultivated fields form permanent natural barriers to the wind; cutting down its velocity. This slows up wind erosion, prevents the blowing off of snow in winter and the rapid drying of the soil in summer, thus aiding in conserving the limited rainfall of the dry regions."

The terms shelterbelt, windbreak, and hedge, often confusing, are defined in this bulletin as follows:

"Shelterbelt - a strip of trees of considerable width (5 or more rows) for more complete protection.

"Windbreak - a planting consisting of one to 3 rows of trees where space is limited.

"Hedge - a single row of trees usually of low or medium height for low wind protection around lawns, gardens, orchards and chicken yards."

Says the bulletin:

"...farm homes are more comfortable and are more easily heated. Livestock winters better where the feedlots are sheltered from cold winds.

"This protection from winter winds is readily observed and important. It is the protection from hot, drying summer winds, however, that may prove to be the real value of the planting. Another serious effect of wind is the actual blowing away of the top soil or so-called wind erosion. Living barriers of trees properly placed will alleviate these conditions by reducing wind velocity.

"These benefits from shelterbelt plantings have been somewhat obscured by the obvious decrease in crop production in the immediate vicinity of the shelterbelt; the so-called ground sapping by the trees. Grains do not head well in the shade, snow does not melt as soon on the strip adjacent to the planting, consequently it may be slower in drying out sufficiently to work, but experiments have proved that this damage is more than made up in increased crop yields beyond the shade and out of reach of the roots. Hay crops do well in the shade of shelterbelt plantings and they can be used in the narrow area immediately adjacent to the planting."

The location of plantings, arrangement and spacing of trees, cultivation and other topics as well as descriptions of the major species recommended for planting are also treated in this interesting bulletin.

Space does not permit a review of all these items but it all goes to show that the benefits of shelterbelts are widely recognized and that shelterbelts are appreciated in sections of the United States other than the Plains States.

- L. S. Matthew, R.O.

BIRDS WINTER IN SHELTERBELTS

The quail have again returned to Alex Floyd's shelterbelt though not in the numbers of last year - due probably in part at least, to an abundance of feed and cover over the surrounding country generally. However, about 75 of the usual 300 are again among the trees where they appeared in late September to take advantage of the cover there and to feed on Floyd's grain. A covey of quail is present at Doc Lunbeck's belt, and doubtless among other tree belts the birds are seeking protection.

Particularly now that the trees have dropped their leaves, a walk through Floyd's shelterbelt reveals an abundance of last year's nests of mockingbirds, mourning doves, lark sparrows, and others. These seem to be concentrated largely in the more limby trees such as Chinese elm and Hackberry. Native sparrows, including song and tree sparrows which feed largely on weed seeds, are seeking winter protection along with the bobwhite in the Floyd belt.

- Donald P. Duncan, Kans.

PATCHING TARPS AND TRUCK COVERS

This is not a commercial ad or endorsement, but rather intended as a helpful hint to other District Officers. It has to do with the patching of tarps and other canvas with "Little Bear Glue."

It is easy and simple to use, and can be bought at any good tent and awning company. Place the canvas to be repaired in its proper position, cover with Little Bear Glue another piece of canvas large enough to patch the break, and apply in place. Smooth out the wrinkles so that the canvas fits closely together, allow to dry for 40 minutes, and then drive out in the rain if you want to.

Small breaks can be patched by the warehouseman when crews come in, and the tarp is all ready the following morning. No heavy tugging removing the tarp and putting it back on the truck. Tarps last longer when repaired before the hole gets large. The cost is small and the time is almost nothing. It does require that the supervising officer check to see it is being used or small jobs may be neglected, but if applied it will get the job done and it is the lazy mans way E Z Y.

- James W. Kyle, Okla.

"WHAT'S WORTH DOING AT ALL....."

Forest Service WPA labor of Kiowa County has been in demand by farmers during the past summer and fall; working with these men on grape hoeing and fencing gave the farmers an opportunity to know the type of work they were capable of doing.

A number of requests were received from farmers to use these men on farm jobs, and just recently a large landowner who lives in Greensburg, Kansas, drove 25 miles to Kinsley on Sunday night to see if he could hire our fencing crew during the period the men were not working for us, to build a fence around a section of land he had just purchased. I asked him why he particularly wanted our men, since I knew there was a number of men in town who had not been able to get on WPA. He said: "Your men worked on my farm and built me a better fence around my shelterbelt than I could have built myself. Besides I can send your foreman and men out to work and know that the job will be done and done right."

His request was granted, as had been others. It gives me a lot of personal satisfaction to know that the work we are doing is meeting with public approval. I believe we are helping our cause along as well as the men's, and most of all, prospective employers are now giving these men some consideration that they have not received in the past. So more power to our quotas of man work per day; it is one of the best pieces of I&E work we can do.

- Jewell G. Harrison, Kans.

WORD FROM THE WISE

The reward of a thing well done is to have done it.

- Emerson (Reg. 9 "Daily Contact")

SATURDAY AFTERNOON NEGOTIATIONS

Negotiating Saturday afternoon for shelterbelt plantings is not new, nor is negotiating belts from the office a new idea. Even combining the two may not be an innovation but it has been very effective for Subdistrict Officer Harold A. Livers. The initial step taken by Mr. Livers was very close cooperation with the AAA and County Agents. As a result of this cooperation, several thousand letters and cards were sent to farm owners by the two agencies. These letters and cards contained the agencies' "stamps of approval" of our Project and also urged the farmers to call on the Forest Service for further information. Upon receipt of an inquiry, Livers would place a pin on his map showing the location of the prospective application. Then about the middle of the week Livers would send cards to several farmers within the trade area of a given town, stating that it was impossible for him to call on them that week but that he could be reached in that city the coming Saturday. He also requested that the farmer bring along the aerial photo of his farm.

If the first Saturday's results are an indication of what is to follow, Livers will need one or two assistants to handle his Saturday business. Maybe it should be mentioned that a field check was made prior to recommending acceptance of applications negotiated in this manner.

- Floyd W. Hougland, Nebr.

LONG WAVE THE BANNER

The Kansas AAA Committee gets out a monthly mimeographed bulletin containing news both of Kansas activities and of national happenings and trends. In the December issue, under a cartoon showing a line of marching trees carrying a banner labeled "We Control Erosion, Stop the Wind, Provide Wood, Shade and Timber," appears a story telling of the radio broadcast by State Director Feitz on the PSFP program. Commenting on Feitz' talk the bulletin says:

"Where trees are as easy to grow as they are in eastern Kansas, let's encourage more good windbreaks. Remember the AAA payment of 7.50 an acre for tree planting. According to Feitz, a good windbreak should consist of at least five rows of trees with low-growing varieties, such as cedars, on the north and the tall species on the south side. Bulletin 285 from the Kansas Agricultural Experiment Station, "Woodlands for Kansas," is good on this subject.

"Get busy eastern Kansas or the west end of the state will have you beat so far as good windbreaks are concerned."

Coming from such a source this endorsement must have tremendous weight with county committees and, in the last analysis, with farmers themselves.

- E. L. Perry, R.O.

NOTHING LIKE VARIETY

In a recent personal letter, Roy Morgan, who was district officer at Shamrock, Texas, but is now back on his old stomping (perhaps we should say "sloshing") grounds in Bienville Parish, Louisiana, describes his work as follows:

"It is similar to PSFP except that instead of trying to convince farmers that they can make money by planting trees we must convince them that they can make money by cutting them down. Ain't people der cwaziest monkeys?"

For a long time after his arrival in Texas and his assignment to Shamrock, Morgan felt that he was on the roof top of the world in one of the driest, dustiest, windiest sections on the entire Project. We used to tell him that after he once got thoroughly dried out after living in his Louisiana swamps, he would really appreciate the Plains country. Another sentence in Morgan's letter indicates that he may yet miss the high, dry Plains. It reads as follows: "Since last Friday night I have sprouted webs; it just quit raining this morning." As this is in or close to an area which received from 10 to 20 inches of rain in a 2- or 3-day period only recently, Roy may still have to go back to Shamrock to avoid becoming water-logged.

- W. E. Webb, Tex.

EDUCATING THE DEAN

On Monday, December 2, the Oregon boys in Kansas had a chance to show the acting Dean of their Forestry School at Oregon State College what they are doing in the treeless plains. While Dean Earl G. Mason was in Wichita, Melvin Crawford, Subdistrict Officer at Wichita, invited to dinner the other Oregonians on the project: Orville Jess, SDO at Wellington, and Carl L. Hawkes, SDO at Pratt. When the three families assembled, Dean Mason thought the three boys had done pretty well because when they left him, all in the class of 1937, they had each been a lone wolf.

As though it had been arranged for the Dean's benefit, Mel had scheduled a meeting for that night of the Kansas Tree Association. Mrs. Fay, Kansas' most loyal shelterbelt cooperater, made a strong plea for others to see the need of our tree belts and their continued supervision. After hearing of the need of our work from an outsider, the Dean got a bird's-eye view of our operations from the 8 mm. moving pictures of the operations in Pratt County that were shown to the group.

Although the former students of Dean Mason were sorry to learn that he was in Wichita to attend the funeral of his father, they were all glad of the chance to see him again. They only regretted they couldn't give him a "true and false" exam after the meeting to see if he had absorbed their educational attempt.

- Carl L. Hawkes, Kans.

HE KNEW WHEREOF HE SPOKE

A radio broadcast without script was the accomplishment of a member of the State Office staff who was questioned for 15 minutes on the forestry situation in Kansas, by Walter J. Daly, Educational Specialist of the AAA, at the studio of Station KMBC, Kansas City, at six o'clock on the morning of November 23. The program came in very distinctly at Manhattan, and those who heard it expressed surprise when they learned that the entire discussion was impromptu, since the whole program went off as smoothly as though prepared script had been used.

- J. D. Hall, Kans.

PIONEER URGES SHELTERBELT PLANTINGS:

"One of the greatest oversights of the early settlers on the prairies was their failure to plant shelterbelts and groves."

This sounds like a statement from an I&E news item but in reality is an excerpt from an address delivered before the Minnesota Horticultural Meeting in 1911 by the late John Maher, pioneer nurseryman of the Lake region.

Mr. Maher, who had been an ardent student of agriculture and horticulture all his life, settled in Devils Lake in 1883 and eventually became a large land-owner. He established a nursery here in 1907 with the idea of producing acclimated stock. To this end, he used only locally collected seed or that grown on a soil type representative of this area. The nursery was abandoned during the World War due to shortage of labor and poor business. I was informed that at one time the value of the stock in the nursery was over one million dollars.

"We pioneers," Mr. Maher continues in his address, "have neglected to plant shelterbelts and still remain idle discussing the subject while the winds, year after year, mow down our young crops, shell the ripened ones, and blight the growing ones. The snow piles around our houses and barns and buries the haystacks, and the 'North Wind' doesn't feel as though it were 'Tempered to the shorn lamb'. However, the shelterbelt will temper the 'North Wind' to your profit and to the comfort and pleasure of your household and barnyard occupants.

"Furthermore, the winds and waters are carrying away the soil from our fields, robbing them of their humus and depositing this soil, so carried away with humus and richness, in the low places that are covered with grass and in the groves and shelterbelts. Moreover, the grasshoppers, and the bugs, and the grubs and worms are becoming altogether too numerous. We need to encourage our friends, the birds, by furnishing them food, shelter, and nesting places so that they can raise more birds to work for us and protect us from the plagues of locusts and devouring insects.

"We are trustees only for the time being of the small portion of Mother Earth to which we each hold title, and are by right and conscience bound to transmit it unimpaired to the next holders. The conservation of the fertile productiveness of our portion is a subject to which we should all give careful thought and study; and it is a subject also for the thoughtful attention and study of our statesmen and law makers.

"The shelterbelt has not only its esthetic side, which is not to be despised, but also its practical side; and I believe we have done without its protection much longer than we should have, to our great damage and discomfort; and that, out of sheer necessity, we must plant it.

"Some think our land is too valuable to devote a portion of it to timber growth in order to protect the balance. In the Po Valley in northern Italy, every field is surrounded by a row of trees and the fields will not average to exceed ten acres each--land is worth from \$200 per acre up."

As to planting standards, Mr. Maher recommended as follows:

"In my shelterbelt of deciduous trees for the field, I would always have the outer row on the south or west. For this row, I would plant caragana, buffalo berry, Russian olive, wild cherry, June berry, wild plum, thorn apple, or willow. These limb from the ground up and are absolutely hardy and will protect the balance of the shelterbelt from the drying winds and sun. The next row would be of Carolina or Norway poplar or white willow to supply the shelter for the remainder of the belt by carrying it high above them and assisting them to come up quickly. Next, I would have four to six rows of our native green ash, white elm, silver maple, black walnut, European larch, hackberry, or wild blackberry, alternating or following each other until at least eighteen rows are planted; making, with the two rows on the outside, twenty rows in the shelterbelt. Less than twenty rows of deciduous trees will not make a complete shelterbelt that will protect itself from the sun and wind and snow and at the same time quickly establish forest conditions, hold enough snow to carry it through dry seasons, and rapidly tower up into high growing trees, having a far-reaching effect as a protection to the field. Two rows of evergreens, planted so as to break joints, will give more protection against the cold wintry winds than ten rows of deciduous trees, while four tree rows of evergreens will make an impenetrable wall through which no wind will flow. Evergreens are equally valuable in protecting us from our summer siroccos.

"In planting, plow deep furrows, going two or more times in the same furrow if necessary. Hold the tree erect in the furrow and draw the earth from each side with the feed and tramp it solid about the tree until the roots are well covered. The balance of the earth to fill the furrow had better be worked in gradually when cultivating the trees. When using small trees, each man should plant 2,500 trees in ten hours by this system and do better planting than if done with a spade. Plant in rows four feet apart with the trees two feet apart in the rows. (There is a block of green ash planted in this manner in the old nursery and is quite thrifty.) This gives each tree eight square feet in which to grow. This is ample room until the trees obtain a height of twelve to fifteen feet when Nature herself will begin to thin the planting, or the owner can cut out the weaker trees for poles or firewood.

"The time required to cultivate them during the season is of no consequence as they can be cultivated along with the corn or potatoes. Two seasons' cultivation will be sufficient when the trees are closely planted, and after that the trees will shade the ground and care for themselves."

One of the interesting experiments carried on by Mr. Maher was the successful propagation of blue spruce by the layering method. There are still many spruce growing in the nursery site from this experiment.

Mr. Maher died in 1936 in Panama during one of his world cruises.

His son, Howard Maher, as executor of the estate, has had Forest Service shelterbelts established on all of the farms of the estate in this region.

- F. E. Gill, N. Dak.

POOR LAND makes poor people -- poor people make poor land.

- Pare Lorentz, Friends of the Land.

GLEANINGS FROM ADDRESS CARDS

The tree-planting idea seems to be biting into the consciousness of Kansas farmers all right. In a recent batch of address cards were two dealing with talks to county land use planning committees. District Officer Glen W. Spring said, "A representative from each government action agency operating in the county gave a report, then we went over the 1941 Docket and struck out the practices not applicable. We then decided upon the practices which would be pushed. We selected five; (1) seeding alfalfa, (2) protecting trees, (3) green manure, (4) cover crops, (5) strip cropping."

District Officer Karl F. Ziegler said of the Reno County committee, "Committee asked for a report. All were worried about and brought up the matter of freezing of trees in recent cold snap. Tried to reassure them as much as possible and suggested wait until spring to see what damage was done. Committee voted shelterbelts one of five major objectives to push for 1941."

It remained for another Kansas field officer, though, to savor the ultimate in satisfactory group meetings. He addressed a County Farm Bureau Federation meeting and he said of his experience, "Audience showed much interest in subject. Had a good time. Ate plenty hot dogs."

What further satisfactions, I ask you, does life afford?

- E. L. Perry, R.O.

WAR NEWS

Away up in the northeast corner of the Project the following newspaper article appeared in a daily:

WAR NEWS - NORTH DAKOTA STYLE. Larimore (Special)--A widespread attack on all fronts near here next Sunday will mark the first "blitzkrieg" of the season in these parts. The high command states that a well-armed battalion will take the offensive from the City Water plant at 1:00 P.M. sharp. This undeclared war will be upon the legion of common jackrabbits in the surrounding community of Larimore. Confirmed reports from rural correspondents having a Prairie States shelterbelt planting state that there are plenty of "Jacks" and there is no indication that they will abandon their present position by next Sunday. Shock troops from the local chapter of the Future Farmers of America (sponsors of the hunt) are expected to see action in this assault. Nimrods from the surrounding communities are invited to join in the "call to the fuzz" for this rabbit drive on Sunday, December 7th.

And what's more, no peace terms will be submitted until the snow has gone from "the north side of the buildings"!

- "Gese" Freeman, N. Dak.

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* But on that side which chiefly open lies to the *
* North wind, whence Storms and Showers arise, *
* There plant a Wood, for without that Defense, *
* Nothing Resists the Northern Violence, *
* While with destructive blasts o'er cliffs and Hills *
* Rough Boreas moves. *
* - René Rabin (1621-1687) *
* 1665 .. "On Gardens" *
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